EA Form R 1/2007

Montana Department of Natural Resources and Conservation
Water Resources Division
Water Rights Bureau

ENVIRONMENTAL ASSESSMENT
For Routine Actions with Limited Environmental Impact

Part I. Proposed Action Description

1. **Applicant/Contact name and address:**

   BEVERLY-ELAINE ETZLER
   PO BOX 37
   EUREKA, MT 59917-0037

2. **Type of action:** Groundwater Application for Beneficial Water Use Permit 76LJ 30156108

3. **Water source name:** Groundwater

4. **Location affected by project:**

   The two points of diversion are in the N2SWNW of Section 11, Township 27N, Range 21W, Flathead County, Montana. The place of use is in Flathead County, Montana, within the following:

   - S2NWNW Section 11, Township 27N, Range 21W.
   - N2SWNW Section 11, Township 27N, Range 21W.
   - NWSENW Section 11, Township 27N, Range 21W.

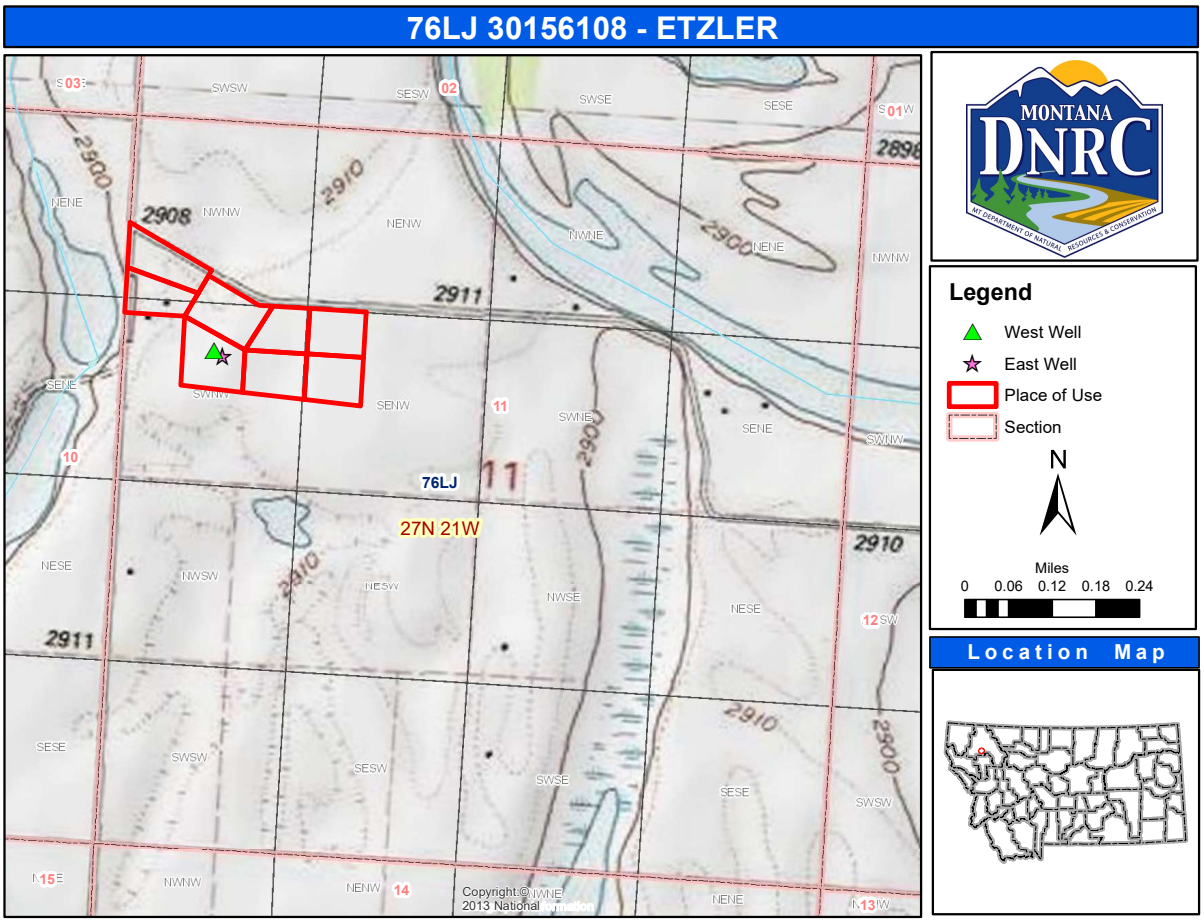

Figure 1. Map of the proposed places of use and points of diversion.

5. Narrative summary of the proposed project, purpose, action to be taken, and benefits:

The Applicant proposes to divert groundwater at 130.0 GPM up to 41.63 AF annually by means of two production wells, West Well (GWIC ID: 318858) and East Well (GWIC ID: 318856), from January 1 – December 31 for multiple domestic use and from April 15 – October 15 for lawn and garden irrigation. The Applicant proposes to use a volume of 19.94 AF of water to supply the multiple domestic use for 89 "tiny home" living units distributed across eight parcels, and 21.69 AF of water to irrigate 16.0 acres of lawn and garden.

This Application seeks to permit water to serve the multiple domestic and lawn and garden irrigation water needs of the Etzler PWS development at full build-out. The proposed Etzler PWS development is comprised of eight lots (totaling 27.3 acres) on which 89 one- and two-bedroom tiny homes are planned. The two proposed PWS wells are both completed to 400-feet below ground surface (BGS) in the Flathead Deep Aquifer. The proposed water system will be a registered public water supply regulated by the Montana Department of Environmental Quality (DEQ) after all DNRC and DEQ approvals are obtained.

The project is in the Flathead River (to and including Flathead Lake) Basin (76LJ) in an area that is not subject to water right basin closures or controlled groundwater area restrictions.

The DNRC shall issue a water use permit if the applicant proves the criteria in 85-2-311 MCA are met.

6. Agencies consulted during preparation of the Environmental Assessment:

- U.S. Fish and Wildlife Service (USFWS): National Wetlands Inventory Wetlands Mapper
- Montana Natural Heritage Program: Endangered, Threatened Species, and Species of Special Concern
- Montana Department of Fish Wildlife & Parks (MTDFWP): Dewatered Stream Information
- Montana Department of Environmental Quality (MTDEQ): Clean Water Act Information Center
- U.S. Natural Resources Conservation Service (NRCS): Web Soil Survey

Part II. Environmental Review

1. Environmental Impact Checklist:

PHYSICAL ENVIRONMENT

WATER QUANTITY, QUALITY AND DISTRIBUTION

Water quantity **-** *Assess whether the source of supply is identified as a chronically or periodically dewatered stream by DFWP. Assess whether the proposed use will worsen the already dewatered condition.*

The Applicant will divert groundwater. The proposed wells are approximately 1.1 miles from Ashley Creek and 2.0 miles from the Flathead River. Ashley Creek was evaluated for hydraulic connectivity using wells less than 50 feet deep with reported static water levels and located within 1,000 feet of the creek. There are no shallow wells with reported static water level measurements less than 10 feet below ground surface (BGS). Data from shallow wells and local stratigraphy do not support a potential hydraulic connection between the shallow aquifer and Ashley Creek. Additionally, DNRC analyses performed for water right applications 76LJ 30063181, 76LJ 30026983, 76LJ 30048581, 76LJ 30068678 and 76LJ 30151701 concluded that Ashley Creek is not hydraulically connected to the Deep Aquifer. The Flathead River between Kalispell and Flathead Lake, and Flathead Lake itself, are considered the hydraulically connected source for depletions (as identified in the January 10, 2011 DNRC memo regarding legal availability of groundwater in the Deep Aquifer).The Flathead River and Flathead Lake are not on the MTDFWP list of chronically or periodically dewatered streams.

Determination: No significant impact.

Water quality **-** *Assess whether the stream is listed as water quality impaired or threatened by DEQ, and whether the proposed project will affect water quality.*

The Department assessed the water quality status of the three surface water sources that were identified as hydraulically connected to this application's source of groundwater supply:

i. The Flathead River;

ii. Flathead Lake; and,

Flathead River: MDEQ Clean Water Act Information Center's 2020 Water Quality Information report lists the Flathead River (from the Headwaters to Flathead Lake) as:

i. Water Quality Category 3: Waters for which there is insufficient data to assess the use-support of any applicable beneficial use; no use-support determinations have been made; and,

ii. Use Class B-1: Waters classified as suitable for drinking, culinary, and food processing purposes after conventional treatment; bathing, swimming and recreation; growth and propagation of salmonid fishes and associated aquatic life, waterfowl and furbearers; and agricultural and industrial water supply.

Flathead Lake: MDEQ Clean Water Act Information Center's 2020 Water Quality Information report lists Flathead Lake as:

i. Water Quality Category 5: Waters where one or more applicable beneficial uses are impaired or threatened, and a TMDL is required to address the factors causing the impairment or threat; and,

ii. Use Class A-1: Waters classified as suitable for drinking, culinary, and food processing purposes after conventional treatment for removal of naturally present impurities.

Flathead Lake is fully supporting for drinking water, primary contact recreation, and agricultural beneficial uses. Flathead Lake is not fully supporting for aquatic life most probably due to Mercury, Total Nitrogen, Total Phosphorus, and Polychlorinated Biphenyl (PCB) levels. Total Maximum Daily Load (TMDL) documents have been completed for the Total Nitrogen and Total Phosphorus pollutants.

The potential surface water depletions that may result from the proposed project will not significantly affect water quality in these sources.

Determination: No significant impact.

Groundwater **-** *Assess if the proposed project impacts ground water quality or supply. If this is a groundwater appropriation, assess if it could impact adjacent surface water flows.*

The two proposed PWS wells, West Well and East Well, are both completed to 400-feet below ground surface (bgs) in the Flathead Deep Aquifer.

A Department analysis of Applicant supplied data from a 24-hour aquifer test on East Well (GWIC: 318856) and a 10-hour yield and drawdown test on West Well (GWIC: 318858) concluded that there is a sufficient supply of groundwater in the source aquifer and the hydraulically connected surface water sources (Flathead River and Flathead Lake) to satisfy the proposed appropriation.

Determination: No significant impact.

DIVERSION WORKS - *Assess whether the means of diversion, construction and operation of the appropriation works of the proposed project will impact any of the following: channel impacts, flow modifications, barriers, riparian areas, dams, well construction.*

As proposed, the Etzler PWS system will consist of:

i. West Well (GWIC ID: 318858; completed to a depth of 400.0 feet below ground surface (BGS) by Cold Water Drilling and Pumps (WWC-624) on January 20, 2022 in the Deep Aquifer);

ii. East Well (GWIC ID: 318856; completed to a depth of 400.0 feet BGS by Cold Water Drilling and Pumps (WWC-624) on January 15, 2022 in the Deep Aquifer);

iii. Both wells are proposed to have 6-inch Grundfos SP 230S150-4 15HP 4-stage submersible pumps controlled by a variable frequency drive (VFD).

iv. Pump house (with VFDs and flow meters);

v. Two 3-inch volumetric flow meters (one for each well);

vi. Looped water distribution system with 4-inch HDPE mainlines; and,

vii. Two Well-X-Trol WX-350 hydropneumatic pressure tanks.

The Applicant has initiated permits to register the system as a Montana Public Water Supply with the Montana DEQ. The final system design shall be approved by the Montana DEQ PWS Section, as is required for public water supply systems in Montana. Preliminary design of the pump house has been initiated, but certified as-built drawings will be required from DEQ upon construction.

Water shall be pumped from West Well (GWIC ID: 318858) and East Well (GWIC ID: 318856) on an alternating lead/lag fashion when operating under normal conditions. In a fire flow situation, both wells will operate simultaneously to meet demands. Emergency fire protection/suppression water use does not require a water right unless dedicated fire protection water storage is required. Storage is not required with this system design. Therefore, the fire flow pumping conditions are not included in the flow request for this permit application. The wells will both convey water to the shared pump house where the operational well controls and flow meters will be located. The two lines will then combine into a single 4-inch line that will convey water to the looped distribution system. The system will operate based upon a constant pressure of 60 pounds per square inch (PSI). The wells will be controlled by VFDs programmed to provide initial demand at 30 Hertz (Hz) but can ramp up during peak demand to achieve the maximum diversion rates at 60 Hz.

Two pressure tanks are planned inside of the pump house to reduce unnecessary pump cycling. Each homesite would have a curb stop at the 4-inch mainline that would allow the individual 1-inch service line to be shut off. In areas with up to four cluster homes, a short 2-inch sideline will provide service for up to four individual 1-inch service lines. The water system layout is looped and includes isolation valves to allow for individual section maintenance. A looped water distribution system helps reduce friction losses while distributing the peak flows.

The wells were designed and constructed as approved by DEQ to include 35-ft of grout and 40-feet of Holte perforated slots. Both wells are proposed to have 6-inch Grundfos SP 230S150-4 15HP 4-stage submersible pumps capable of diverting 259 GPM at 143.5 feet TDH from East Well and 266 GPM at 139.2 feet TDH from West Well. These capabilities will enable the system to meet maximum-day multiple domestic demand of 25 GPM while simultaneously providing fire suppression flows of up to 500 GPM all while maintaining a minimum service pressure of 26.6 PSI. Standard operation has an

estimated peak instantaneous demand of 129.5 GPM for multiple domestic and lawn and garden irrigation. Each well can meet this demand individually with an estimated TDH of 164.2 to 165.7 feet while maintaining service pressures of 55.7 to 60 PSI. The Applicant provided flow distribution calculations for the system under peak multiple domestic and irrigation use conditions and peak fire flow event conditions. Comparing the Applicant-provided pump curves with their calculated head losses demonstrates that the diversion and distribution system can support the peak instantaneous demand of 129.5 GPM to all parcel curb stops at sufficient operating pressure to supply the multiple domestic and lawn and garden irrigation beneficial uses. Additionally, the data show the wells can provide fire flow event demands of 525 GPM.

The wells are designed using 60-feet of 3-inch drop pipe. The 3-inch water line lengths from the wells to the pump house are 65-feet and 25-feet from East Well and West Well, respectively. The static water levels (SWL) were measured at 14-feet below ground surface (BGS) in March 2022. The pumping water levels (PWL) are predicted to be approximately 19-feet BGS and the pumps will be set at 66-feet BGS (60-feet below the 6-foot BGS pitless adapter). The water lines and fittings are 3-inches in diameter from the well through the pump house and then 4-inches in diameter from the pump house to the 4-inch multi-looped distribution system.

Fire suppression Kupferle Mainguard #77 Manual Blow-Off Hydrants fitted with 2.5-inch NST Nozzles are planned to be distributed over the system and near the terminal ends to provide system flushing capabilities and direct fire suppression from the hydrants.

East Well (GWIC: 318856) was evaluated with a 24-hour aquifer test at an average flow rate of 487.6 GPM with the maximum drawdown of 5.98 feet from the SWL of 15.81 feet BTC, leaving 378.21 feet of available water column above the well bottom. West Well (GWIC: 318858) was evaluated with a 10-hour aquifer test at 509.6 GPM with the maximum drawdown of 5.28 feet from the SWL of 15.71 feet BTC, leaving 379.01 feet of water column above its bottom. The water system is designed to operate with each well individually producing up to 130.0 GPM under normal (non-fire flow event) pumping conditions. Only one well will operate at any given time under this Provisional Permit for a maximum diversion of 130.0 GPM.

Discharge from the system occurs as wastewater system drainfield effluent and lawn and garden irrigation water infiltrating back to shallow groundwater.

Based on the results of the 24-hour constant-rate aquifer test on East Well, the 10-hour yield and drawdown test on West Well, anticipated TDH conditions, and the pump performance and system specifications, the Department finds that the diversion and conveyance system is adequate to supply the requested annual volume of 41.63 AF at a flow rate of 130.0 GPM.

This project diverts from groundwater. It will not create any channel impacts, barriers, dams, or riparian impacts to surface waters. Any surface water depletions are physically and legally available or will be fully mitigated. Existing wells in the source aquifer will still have sufficient water column from which to draw water.

Determination: No significant impact.

UNIQUE, ENDANGERED, FRAGILE OR LIMITED ENVIRONMENTAL RESOURCES

Endangered and threatened species **-** *Assess whether the proposed project will impact any threatened or endangered fish, wildlife, plants, aquatic species, or any "species of special concern," or create a barrier to the migration or movement of fish or wildlife. For groundwater, assess whether the*

proposed project, including impacts on adjacent surface flows, would impact any threatened or endangered species or "species of special concern."

The Montana Natural Heritage Program website was reviewed to determine if there are any threatened or endangered fish, wildlife, plants, aquatic species, or any "species of special concern" in the project area that could be impacted by the proposed project. Nine animal species of concern (Table 1) were identified within the project area. No plant species of concern were identified. Of these species, the Grizzly Bear (*Ursus arctos*) is listed as threatened by the USFWS. This area is already highly developed, and it is not anticipated that any species of concern will be further impacted by the proposed project.

Table 1. Animal Species of Concern			
Bobolink (*Dolichonyx oryzivorus*)	Oxyloma nuttallianum (*Oblique Ambersnail*)	Grizzly Bear (*Ursus arctos*)	Pileated Woodpecker (*Dryocopus pileatus*)
Brewer's Sparrow (*Spizella breweri*)	Trumpeter Swan (*Cygnus buccinator*)	Hoary Bat (*Lasiurus cinereus*)	Pygmy Whitefish (*Prosopium coulteri*)
Great Blue Heron (*Ardea herodias*)	---	---	---

Determination: No significant impact.

Wetlands **-** *Consult and assess whether the apparent wetland is a functional wetland (according to COE definitions), and whether the wetland resource would be impacted.*

Determination: N/A, project does not involve wetlands.

Ponds **-** *For ponds, consult and assess whether existing wildlife, waterfowl, or fisheries resources would be impacted.*

Determination: N/A, project does not involve ponds.

GEOLOGY/SOIL QUALITY, STABILITY AND MOISTURE **-** *Assess whether there will be degradation of soil quality, alteration of soil stability, or moisture content. Assess whether the soils are heavy in salts that could cause saline seep.*

The proposed multiple domestic and lawn and garden uses will not negatively impact the soil quality, stability, or moisture content. The soil types in the project area are:

- Corvallis silty clay loam, 0 to 3 percent slopes. Moderately high capacity to transmit water. Nonsaline to very slightly saline.
- Kalispell loam, moderately deep over sand, 3 to 7 percent slopes. Moderately high to high capacity to transmit water. Very slightly saline.
- Kalispell silt loam, moderately deep over sand, 0 to 7 percent slopes. Moderately high to high capacity to transmit water. Very slightly saline.
- Kalispell-Demers silt loams, 3 to 12 percent slopes. Moderately high to high capacity to transmit water. Very slightly saline.

Soils in this area are not likely susceptible to saline seep (mostly nonsaline to very slightly saline).

Determination: No significant impact.

VEGETATION COVER, QUANTITY AND QUALITY/NOXIOUS WEEDS - *Assess impacts to existing vegetative cover. Assess whether the proposed project would result in the establishment or spread of noxious weeds.*

This area is already developed, and any existing native vegetation has likely already been disturbed. It is not anticipated that issuance of a water use permit will contribute to the establishment or spread of noxious weeds in the project area. Noxious weed prevention and control will be the responsibility of the landowners, who must follow local noxious weed regulations.

Determination: No significant impact.

AIR QUALITY - *Assess whether there will be a deterioration of air quality or adverse effects on vegetation due to increased air pollutants.*

There will be no impact to air quality associated with issuance of the proposed permit for beneficial use of surface water.

Determination: No significant impact.

HISTORICAL AND ARCHEOLOGICAL SITES - *Assess whether there will be degradation of unique archeological or historical sites in the vicinity of the proposed project if it is on State or Federal Lands. If it is not on State or Federal Lands simply state NA-project not located on State or Federal Lands.*

Determination: N/A, project not located on State or Federal Lands.

DEMANDS ON ENVIRONMENTAL RESOURCES OF LAND, WATER, AND ENERGY - *Assess any other impacts on environmental resources of land, water, and energy not already addressed.*

All impacts to land, water, and energy have been identified. No further impacts are anticipated.

Determination: No significant impact.

HUMAN ENVIRONMENT

LOCALLY ADOPTED ENVIRONMENTAL PLANS AND GOALS - *Assess whether the proposed project is inconsistent with any locally adopted environmental plans and goals.*

The project is consistent with planned land uses.

Determination: No significant impact.

ACCESS TO AND QUALITY OF RECREATIONAL AND WILDERNESS ACTIVITIES - *Assess whether the proposed project will impact access to or the quality of recreational and wilderness activities.*

The proposed project will not inhibit, alter, or impair access to present recreational opportunities in the area. The project is not expected to create any significant pollution, noise, or traffic congestion in the area that may alter the quality of recreational opportunities. The proposed place of use and diversion do not exist on land designated as wilderness.

Determination: No significant impact.

HUMAN HEALTH - *Assess whether the proposed project impacts human health.*

This proposed use will not adversely impact human health.

Determination: No significant impact.

PRIVATE PROPERTY - *Assess whether there are any government regulatory impacts on private property rights.*
*Yes___ No_**X**_ If yes, analyze any alternatives considered that could reduce, minimize, or eliminate the regulation of private property rights*.

Determination: No impact.

OTHER HUMAN ENVIRONMENTAL ISSUES - *For routine actions of limited environmental impact, the following may be addressed in a checklist fashion.*

Impacts on:

(a) *Cultural uniqueness and diversity?* None identified.

(*b)* *Local and state tax base and tax revenues?* None identified.

(c) *Existing land uses?* None identified.

(*d)* *Quantity and distribution of employment?* None identified.

(e) *Distribution and density of population and housing?* None identified.

(f) *Demands for government services?* None identified.

(g) *Industrial and commercial activity?* None identified.

(h) *Utilities?* None identified.

(i) *Transportation?* None identified.

(j) *Safety?* None identified.

(k) *Other appropriate social and economic circumstances?* None identified.

2. *Secondary and cumulative impacts on the physical environment and human population:*

Secondary Impacts: None identified.

Cumulative Impacts: None identified.

3. *Describe any mitigation/stipulation measures:*

None.

4. *Description and analysis of reasonable alternatives to the proposed action, including the no action alternative, if an alternative is reasonably available and prudent to consider:*

The only alternative to the proposed action would be the no action alternative. The no action alternative would not authorize the diversion of groundwater.

Part III. Conclusion

1. Preferred Alternative

Issue a water use permit if the Applicants prove the criteria in 85-2-311 MCA are met.

2. Comments and Responses

None.

3. Finding:

*Yes___ No_**X**_ Based on the significance criteria evaluated in this EA, is an EIS required?*

If an EIS is not required, explain why the EA is the appropriate level of analysis for this proposed action:

No significant impacts related to the proposed project have been identified.

Name of person(s) responsible for preparation of EA:

Name: Travis Wilson
Title: Water Resource Specialist
Date: 27 April 2023